

Amendments to the Claims

These claims will replace all prior versions, and listings, of claims in the application:

1.(currently amended): A method of generating a watermark signal for embedding in a multimedia host signal, the method comprising ~~the steps of:~~

taking a first sequence of values; [[and]]

applying a window shaping function having a predetermined width to said first sequence of values so as to form a smoothly varying signal ~~suited for embedding in the host signal,~~ wherein the integral over the predetermined width of the window shaping function is zero; and embedding said smoothly varying signal into the host signal.

2. (original) A method as claimed in claim 1, wherein the window shaping function has an anti-symmetric temporal behavior.

3. (original) A method as claimed in claim 1, wherein the window shaping function has a bi-phase behavior.

4. (original) A method as claimed in claim 3, wherein the bi-phase window comprises at least two Hanning windows of opposite polarities.

5. (original) A method as claimed in claim 1, wherein the frequency spectrum of the smoothly varying signal has a DC component less than a component of any non-DC peak within the frequency spectrum.

6. (original) A method as claimed in claim 1, wherein each value of the first sequence is represented by a pulse train of width  $T_s$  so as to form a rectangular wave signal, the window shaping function also being of width  $T_s$ .

7. (original) A method as claimed in claim 1, wherein said first sequence of values is convolved with the window shaping function so as to form said smoothly varying signal.

8. (canceled)

9.(currently amended): An apparatus arranged to generate a watermark signal suitable for embedding in a host multimedia signal, the apparatus comprising:

a signal generator arranged to generate a watermark signal by taking a first sequence of values; and

processing means arranged to apply a window shaping function having a predetermined width to said first sequence of values so as to form a smoothly varying signal suitable for embedding in a host signal, wherein the integral over said predetermined width of the window shaping function is zero.

10. (original) An apparatus as claimed in claim 9, wherein the apparatus further comprises a watermark embedding apparatus that embeds said smoothly varying signal into the host signal.

11. (canceled)

12. (canceled)

13.(currently amended): A method of detecting a watermark signal embedded in a multimedia signal, the method comprising ~~the steps of~~:

receiving the multimedia signal;

extracting an estimate of a watermark from the received signal by assuming that the watermark comprises a sequence of values to which a window shaping function having a predetermined width has been applied, the integral over said predetermined width of the window shaping function being zero; and

processing the estimate of the watermark with a referenced version of the watermark so as to determine whether the received signal is watermarked.

14.(currently amended): A method as claimed in claim 13, the method further comprising ~~the step of~~ applying the window shaping function having the predetermined width to the received signal, the integral over said predetermined width of the window shaping function being zero.

15.(currently amended): A method as claimed in claim 13, wherein the watermark signal has a payload, and the method further comprising ~~comprises the step of~~ determining the payload of the watermark.

16.(currently amended): A watermark detector apparatus arranged to detect whether a watermark signal is embedded within a multimedia signal, the watermark detector comprising:

a receiver arranged to receive the multimedia signal;

an extractor arranged to extract an estimate of a watermark from the received signal by assuming that the watermark comprises a sequence of values to which a window shaping function having a predetermined width has been applied, the integral over said predetermined width of the window shaping function being zero; and

a processor arranged to process the estimate of the watermark with a referenced version of the watermark so as to determine whether the received signal is watermarked.

17.(currently amended): An apparatus as claimed in claim 16, wherein the apparatus further comprises a unit arranged to apply the window shaping function having the predetermined width to the received signal, wherein the integral over said predetermined width of the window shaping function is zero.